#2 PRIORITY
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KPGRAVE

Docket No. 29206-00029
HL73722/003/CIV/JJM

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s):	Heino WENDELRUP	)	Group Art Unit: NOT ASSIGNED
Serial No.:	[Not Yet Assigned}	)	Examiner: NOT ASSIGNED
Filed:	[Herewith]	)	
For:	ELECTRONIC DEVICES		

Assistant Commissioner
for Patents
Washington, D.C. 20231

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Type or Print Name DOROTHY MACKINNON

Dorothy MacKinnon
Signature

Dear Sir:

CLAIM OF PRIORITY UNDER 35 U.S.C. § 119

Under the provisions of 35 U.S.C. 119 Applicant hereby claims the priority of British patent application no. 0002302.8 filed on 01 Feb 2000, which is mentioned in the declaration of the above-identified application. A certified copy of the priority document is filed herewith.

Respectfully submitted,

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The Patent Office
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Cardiff Road
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NP10 8QQ

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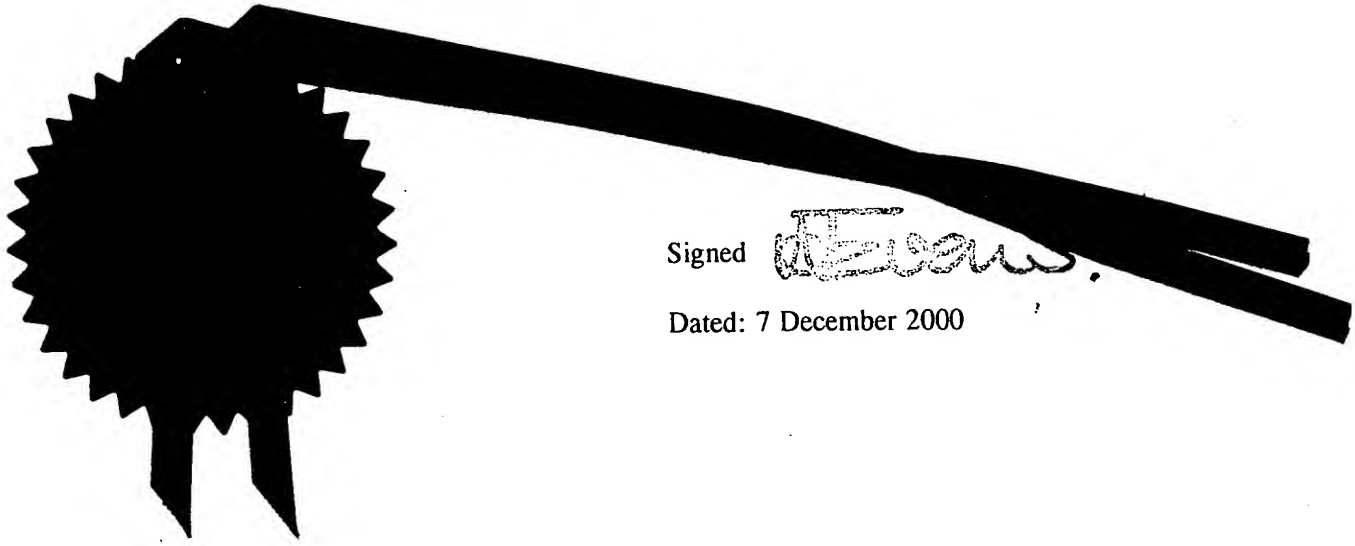

Signed

Dated: 7 December 2000

Patents Form 1/77

Patents Act 1977
(Rule 16)

The Patent Office

1/77

Request for grant of a patent

(See the notes on the back of this form. You can also get an explanatory leaflet from the Patent Office to help you fill in this form)

The Patent Office

Cardiff Road
Newport
Gwent NP9 1RH

1. Your reference — HL73722/000/CIV

2. Patent application number *(The Patent Office will fill in this part)* — **0002302.8**

3. Full name, address and postcode of the or of each applicant *(underline all surnames)*

TELEFONAKTIEBOLAGET L M ERICSSON (publ)
SE-126 25 STOCKHOLM
SWEDEN

763730002 IN

Patents ADP number *(if you know it)*

If the applicant is a corporate body, give the country/state of its incorporation — SWEDEN

4. Title of the invention
ELECTRONIC DEVICES

5. Full name of your agent *(if you have one)* — Haseltine Lake & Co.

"Address for service" in the United Kingdom to which all correspondence should be sent *(including the postcode)*

Imperial House
15–19 Kingsway
London WC2B 6UD

Patents ADP number *(if you know it)* — 34001

6. If you are declaring priority from one or more earlier patent applications, give the country and the date of filing of the or of each of these earlier applications and *(if you know it)* the or each application number

Country	Priority application number *(if you know it)*	Date of filing *(day/month/year)*

7. If this application is divided or otherwise derived from an earlier UK application, give the number and the filing date of the earlier application

Number of earlier application	Date of filing *(day/month/year)*

8. Is a statement of inventorship and of right to a grant of patent required in support of this request? *(Answer "Yes" if:*
a) any applicant named in part 3 is not an inventor, or
b) there is an inventor who is not named as an applicant, or
c) any named applicant is a corporate body.
See note (d))

Yes

ELECTRONIC DEVICES

The present invention relates to electronic devices, and in particular to electronic communications devices having voice activated functions.

BACKGROUND OF THE INVENTION

It is currently known to provide electronic devices such as mobile telephones with voice activated functions. For example, some mobile telephones make use of voice activated dialling (VAD) to simplify dialling of calls from the telephone.

Figure 1 of the accompanying drawings schematically shows a device having a device controller 2 which controls various device functions 4. A digital signal processor (DSP) 8 is provided to receive voice inputs 10 from a user. The DSP 8 includes a voice comparison function 81 which compares the voice input 10 with voice signal data stored in DSP data storage 82. The output of the voice comparison function 81 serves to control the device functions 4, via the controller 2, in response to the received voice inputs. The DSP 8 receives the voice input 10 and compares it with entries in a user defined library of voice signals (or "voice tags"). The library of voice tags is received from device data storage 6 (particularly a voice tag data library area 62) whenever voice activation is selected. The DSP data storage 62 is also generally used to store data relating to other functions of the DSP 8, for example for use in noise reduction. Part of a library of voice tags for a voice activated dialling telephone is shown in Figure 2. The telephone can be instructed to dial a telephone number simply by the user speaking the name of the person in the list. The voice tag data is stored by the user of

According to one aspect of the present invention, there is provided an electronic device comprising control means for providing the device with a plurality of selectable operating modes, the operating modes defining respective set of operating parameters for functions of the device, voice detection means for receiving an input voice signal and for providing voice activation of at least one function of the device, the voice detection means being operable to compare an input voice signal with a library of stored voice signals to determine the operation of the device corresponding to the input voice signal, wherein the stored voice signals are stored by the user of the device, and wherein each operating mode has a specific associated library of stored voice signals for use by the voice detection means when the operating mode concerned is selected.

BRIEF DESCRIPTION OF THE DRAWINGS

Figure 1 is a schematic diagram of a voice activated electronic device;

Figure 2 illustrates part of a stored library of voice tags;

Figure 3 illustrates various operating mode settings of a mobile telephone;

Figure 4 is a schematic diagram of a storage element for use in a device in accordance with the present invention; and

Figure 5 illustrates various operating mode settings of a mobile telephone embodying the present invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

Figure 4 of the accompanying drawings illustrates

selected, the voice tag library associated with the current profile is loaded into the DSP 8 for use in the voice activation of functions of the device. In this way, the effective number of voice tags that can be stored by the device can be increased without causing undue delays in voice processing. The libraries of tags are set up and stored by the user (or users) of the device.

Using the mobile telephone example, one profile could be used to define the use of the telephone for business purposes. In such a setting a specific business-oriented voice tag library can be used. This could contain, for example, business contact numbers. When the telephone is then switched to a home setting at the end of the day, the voice tag library is updated using a "home" library stored in the device data storage 6. This home library could contain, for example, contact numbers for family and friends. If necessary some names (spouse, boss etc.) can be stored in both lists. Alternatively, a single list of voice tags can be stored in the device data storage, with the voice tag library data selecting a number of entries from the list for use with a particular profile.

The following list illustrates possible uses for specific function related libraries, particularly with relation to mobile telephones. In each example two options are described but in reality the choice need not be limited to two and any or all of the options below may be combined. It will be readily appreciated that any of the functions on a mobile telephone might be voice activated, and that voice activated dialling is presented here merely as an example.

Figure 5 illustrates various operating mode

If more than one person uses the telephone then they can have their own profiles with their own lists of names. This gives additional advantages as the two users will record their lists of names independently and may well have the same names for different people. Any possible confusion can be avoided by selecting the correct profile. The different users will also have different pre-recorded commands for voice answering etc (e.g. yes, no, answer,) which will be associated with the profile. Enabling the use of specific lists for specific profiles will enable multiple users to use a telephone because each user will be able to store their own voice tag library which is associated only with their specific profile.

Two telephone lines from one phone

This can be associated with any of the situations listed above (e.g. one line for home, one for work or one subscription in Country A another in Country B). The relevant profile can be chosen by the user or selected automatically when changing lines. The voice activation commands relating to the different lines, and possibly different operators, are then automatically loaded into the DSP memory from the library concerned.

It will be readily appreciated that the use of profile-specific libraries of stored voice tags is not only applicable for use on mobile telephones; voice activation of functions in other electronic devices such as PCs, hand held computers and communicators is also possible. Multiple stored voice tag libraries can enable multiple users to use voice activated commands, by allowing each user to pre-record a voice tag library. WAP (wireless application protocol) enabled mobile telephones are also suitable for use in such a

CLAIMS:

1. An electronic device comprising:

control means for providing the device with a plurality of selectable operating modes, the operating modes defining respective sets of operating parameters for functions of the device;

voice detection means for receiving an input voice signal and for providing voice activation of at least one function of the device, the voice detection means being operable to compare an input voice signal with a library of stored voice signals and to output a control signal on the basis of that comparison,

wherein the stored voice signals are stored by at least one user of the device, and

wherein each operating mode of the device has an associated library of stored voice signals for use by the voice detection means when the operating mode concerned is selected.

2. An electronic device having a plurality of user selectable operating modes, each operating mode defining a set of operating parameters for the device, and having at least one voice activated function which is responsive to an input voice signal,

wherein reference voice signals are stored in the device by at least one user of the device and

wherein the reference voice signals are stored in groups, each of which relates to a specific operating mode of the device.

3. A device as claimed in claim 1 or 2, being a mobile telephone and having a voice activated dialling function for dialling called numbers in response to a voice input from a user, the groups of reference voice signals including references to intended called numbers.

4. A device as claimed in claim 1 or 2, being a mobile telephone, and wherein the reference voice

ABSTRACT

ELECTRONIC DEVICES

An electronic device has a plurality of user selectable operating modes. Each operating mode defining a set of operating parameters for the device. The device also has at least one voice activated function which is responsive to an input voice signal. The reference voice signals are stored in the device by a user of the device and are stored in groups, each of which relates to a specific operating mode of the telephone.

Fig 4

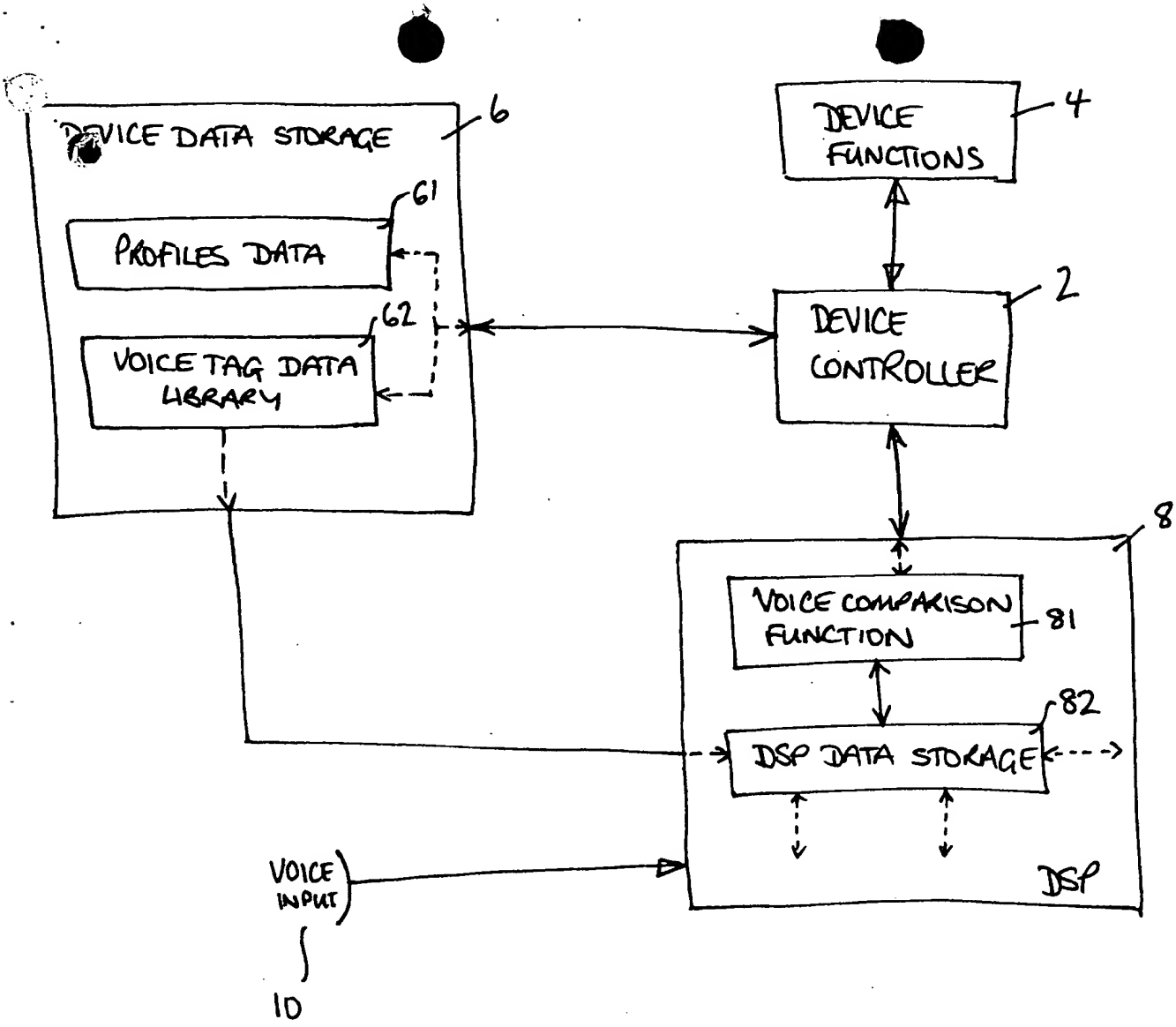

FIGURE 1

SPARE

TELEPHONE NO.	VOICE TAG
01444 567890	ANN
01757 987654	MARK
0793 852369	BOB
⋮	⋮

FIGURE 2

Figure 3.

	Normal	Meeting	In Car	Outdoors	Port H-free	Home
Ring Volume	5(6)	2(6)	6(6)	6(6)	6(6)	5(6)
Increasing Ring	Off	Off	Off	Off	Off	Off
Vibrating Alert	On if silent	On if silent	Off	On	On if silent	On
Accept Calls	From All	From All	From All	From All	From All	From All
Divert Calls	Off	Off	Off	Off	Off	Off
Light	Auto	Auto	On	Auto	Auto	Auto
Line ½	L1	L1	L1	L1	L1	L1
Silent	Off	On	Off	Off	Off	Off
Auto Activation	Off	Off	On	Off	On	Off
Accessories	–	–	Vehicle HF	–	Hands-free	–

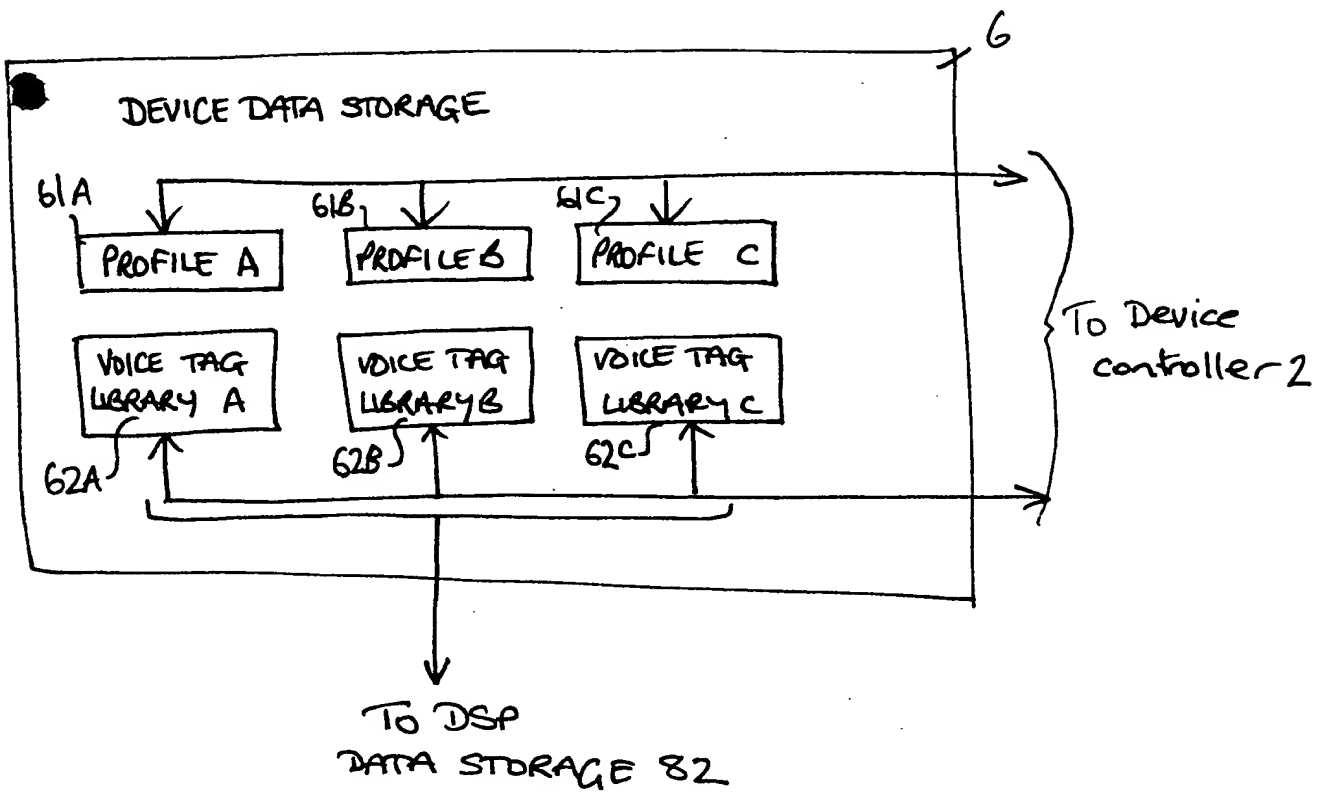

FIGURE 4

SPARE

Figure 5.

	Normal	Meeting	In Car	Outdoors	Port H-free	Home
Ring Volume	5(6)	2(6)	6(6)	6(6)	6(6)	5(6)
Increasing Ring	Off	Off	Off	Off	Off	Off
Vibrating Alert	On if silent	On if silent	Off	On	On if silent	On
Accept Calls	From All	From All	From All	From All	From All	From All
Divert Calls	Off	Off	Off	Off	Off	Off
Light	Auto	Auto	On	Auto	Auto	Auto
Line ½	L1	L1	L1	L1	L1	L1
Silent	Off	On	Off	Off	Off	Off
Auto Activation	Off	Off	On	Off	On	Off
Accessories	_	_	Vehicle HF	_	Hands-free	_
Voice Tag Library	Library 1	Library 2 (Business)	Library 1	Library 3 (Restricted)	Library 1	Library 4 (Home)

SPARE